

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Stanislav KADLEC, et al.
Serial No.: 10/798,331
Filed: March 12, 2004
For: METHOD FOR MANUFACTURING SPUTTER-COATED
SUBSTRATES, MAGNETRON SOURCE AND SPUTTERING
CHAMBER WITH SUCH SOURCE
Group: 1795
Examiner: Michael A. Band
Conf. No.: 6134

STATEMENT OF SUBSTANCE OF INTERVIEW

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

May 21, 2009

Sir:

This is to summarize the substance of the personal interview granted by Examiner Michael Band on May 20, 2009, to Applicants' undersigned attorney as indicated in the Form PTOL-413 completed during the interview, a copy of which is attached as Exhibit 1. One correction to the Interview Summary, is that the type of interview was not telephonic, but personal, being conducted at the Patent and Trademark Office. During the interview, the undersigned discussed the background of the invention as explained on pages 1-4 of the application Specification and reviewed independent claims 36 and 49 with particular reference to the disclosed embodiment of the invention illustrated in Fig. 2 of the application drawings. It was noted that an aim of the invention is to provide a method of manufacturing substrates with a vacuum plasma treated surface with an improved averaged homogeneity of

plasma density distribution over the substrate surface, and a magnetron treatment chamber for performing the method. A limitation of the prior art as referred to in the background of the invention is that ion density at the substrate is strongly inhomogeneous.


Arguments were presented by the undersigned during the interview consistent with those in the Remarks in the Amendment filed April 14, 2008 distinguishing the present invention from the references applied in the rejections of the claims in the Office Action of October 14, 2008. In particular, the claimed invention was distinguished from the patent to Wang et al, U.S. Patent No. 6,837,975. In Wang et al, the second magnet subarrangement 38 does not move around the first center 14 as in Applicants' claims as amended. With respect to the embodiment of Fig. 2 of the application drawings, with the first and second magnet subarrangements of the invention, a moon-like interspace exists between the second magnet subarrangement 7a and the periphery of the target. In this interspace, the third magnet subarrangement 7b is provided. With this arrangement, a significant part of the target is swept over by the first and second magnet arrangements, thereby inclusive of the center A_s according to the present invention. In contrast, with the roof magnetron with magnets 38 and 36 rotating around the one center 14 in Wang et al, a circular sputter track of the target is established. The central part adjacent to the axis 14 is not eroded, as may be seen from Wang et al Fig. 1, where no magnetron field is present in the addressed central part.

During the interview, the Examiner noted there is a typographical error in claim 49 in that "parrern" should be "pattern". The undersigned concurs with the other statements in the substance of interview Form PTOL-413.

An early action on the merits is requested.

While Applicants have made a good faith attempt to advance the prosecution in the above-identified application with the filing of the Amendment on April 14, 2009 responsive to the Office Action dated October 14, 2008, and by the aforementioned personal interview with Examiner Band on May 20, 2009, if the Examiner finds that outstanding issues remain in the application, he is invited to telephone the undersigned with a view toward resolution of such matters in order to place the application in condition for allowance.

Respectfully submitted,

/Ronald J. Shore/ 
Ronald J. Shore
Registration No. 28,577
ANTONELLI, TERRY, STOUT & KRAUS, LLP
(703) 312-6600

RJS:dlh

EXHIBIT 1

Interview Summary	Application No. 10/798,331	Applicant(s) KADLEC ET AL.	
	Examiner MICHAEL BAND	Art Unit 1795	

All participants (applicant, applicant's representative, PTO personnel):

(1) MICHAEL BAND.

(3)_____.

(2) Ronald Shore.

(4)_____.

Date of Interview: 20 May 2009.

Type: a) ☒ Telephonic b) ☐ Video Conference
c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☒ No.
If Yes, brief description: _____.

Claim(s) discussed: 36 and 49.

Identification of prior art discussed: Yes.

Agreement with respect to the claims f) ☐ was reached. g) ☒ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: See Continuation Sheet.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

/M. B./
Examiner, Art Unit 1795

Continuation of Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Discussed overcoming Wang et al (US Patent No. 6,837,975) regarding new claim limitation requiring looping of the second magnet subarrangement around the first center; Discussed potential claim amendment of requiring a planar target; Discussed how independent claims 36 and 49 are directed towards Applicant's figure 2; Discussed adding limitation of claim 50 to claim 49; the Applicant noted the advantage of plasma homogeneity over the substrate surface in the magnetron treatment chamber.